CLAIMS

1. A method for fabricating a magnetic head, including the steps of:

fabricating portions of said magnetic head including a P1 pole, a write gap layer and a P2 pole tip;

notching said P1 pole including the following steps:

etching portions of said write gap layer utilizing C_2F_6 as a component of an etchant gas;

subsequently etching portions of said P1 pole; and

conducting further fabrication steps to complete fabrication of said magnetic head.

2. A method for fabricating a magnetic head as described in claim 1 wherein said etching of said P1 pole is conducted using argon as an etchant gas.

3. A method for fabricating a magnetic head as described in claim 1 wherein said etching of said right gap layer is conducted utilizing C_2F_6/Ar as an etchant gas.

4. A method for fabricating a magnetic head as described in claim 3 wherein said C_2F_6/Ar etchant gas includes C_2F_6 gas in a concentration range of from 50% to 90%.

5. A method for fabricating a magnetic head as described in claim 4 wherein said C_2F_6 gas concentration range is from 70% to 80%.

6. A method for fabricating a magnetic head as described in claim 5 wherein said concentration of C_2F_6 in said etchant gas is approximately 75%.

7. A method for fabricating a magnetic head as described in claim 3 wherein a Ni flouride thin film layer is formed on said P2 pole tip during said write gap layer etching step.

8. A method for fabricating a magnetic head, including the steps of:

fabricating portions of said magnetic head including a P1 pole, a write gap layer and a P2 pole tip;

notching said P1 pole including the following steps:

etching portions of said write gap layer utilizing an ion beam that is formed with an etchant gas including C_2F_6 and argon;

subsequently etching portions of said P1 pole using argon as an etchant gas; and

conducting further fabrication steps to complete the fabrication of said magnetic head.

9. A method for fabricating a magnetic head as described in claim 8 wherein said C_2F_6 /Ar etchant gas includes C_2F_6 gas in a concentration range of from 50% to 90%.

10. A method for fabricating a magnetic head as described in claim 9 wherein said C_2F_6 gas concentration range is from 70% to 80%.

11. A method for fabricating a magnetic head as described in claim 10 wherein said concentration of C_2F_6 in said etchant gas is approximately 75%.

12. A method for fabricating a magnetic head as described in claim 9 wherein said etching of said write gap layer is conducted in part with a first etchant ion beam angle away from normal of

from 5°to 30°, and in part with a second etchant ion beam angle of from 65° to 85°.

13. A method for fabricating a magnetic head as described in claim 12 wherein said first ion beam angle is from 10° to 20° and said second ion beam angle is from 70° to 75°.

14. A method for fabricating a magnetic head as described in claim 13 wherein said first ion beam angle is approximately 10°.

15. A method for fabricating a magnetic head as described in claim 12 wherein said C_2F_6 /Ar ion beam is generated with an ion beam voltage of from 600-900 volts, and an ion beam current of from 600-1200 mA.

16. A method for fabricating a magnetic head as described in claim 15 wherein said ion beam voltage is in the range of 650-750 volts and said ion beam current is in the range of 900-1100 mA.

17. A method for fabricating a magnetic head as described in claim 15 wherein a Ni fluoride thin film layer is formed on said P2 pole tip.

18. A method for fabricating a magnetic head, including the steps of:

fabricating portions of said magnetic head including a P1 pole, a write gap layer and a P2 pole tip;

notching said P1 pole including the following steps:

etching portions of said write gap layer utilizing an ion beam that is formed with an etchant gas including C_2F_6 and argon, wherein said C_2F_6 gas concentration range is from 70% to 80%; and wherein said etching of said write gap layer is conducted in part with a first etchant ion beam angle away from normal of from 5° to 30°, and in part with a second etchant ion beam angle of from 65° to 85°;

subsequently etching portions of said P1 pole using argon as an etchant gas; and

conducting further fabrication steps to complete the fabrication of said magnetic head.

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